

1 **Amendment to the Claims**

2 **In the Claims:**

3 Please amend Claims 29, 34, 35, and 45 as follows:

4 1. (Original) A medical simulator for training ultrasound operators to perform
5 cranosynotosis screenings using ultrasound, comprising a substantially life size model of a human
6 head, said model including at least one simulated patent skull suture, an echogenicity of each
7 simulated patent skull suture enabling the simulated patent skull suture to be readily distinguishable
8 in an ultrasound image of said model.

9 2. (Original) The medical simulator of Claim 1, wherein said model is at least in part
10 fabricated from a first material, and each simulated patent skull suture comprises an opening formed
11 in said first material.

12 3. (Original) The medical simulator of Claim 2, wherein each opening corresponding to a
13 simulated patent skull suture is filled with a second material, an echogenicity of the second material
14 being different from an echogenicity of the first material.

15 4. (Original) The medical simulator of Claim 3, wherein the second material is hypoechoic.

16 5. (Original) The medical simulator of Claim 3, wherein the echogenicity of the second
17 material is lower than the echogenicity of the first material, such that in an ultrasound image of the
18 model, portions of the model corresponding to the first material appear brighter in contrast than
19 portions of the model corresponding to the second material.

20 6. (Original) The medical simulator of Claim 3, wherein a scalp portion of the model is
21 covered with a layer of the second material.

22 7. (Original) The medical simulator of Claim 3, wherein the second material comprises a
23 mixture of a starch and a glue.

24 8. (Original) The medical simulator of Claim 7, wherein the glue is a casein-based glue.

25 9. (Original) The medical simulator of Claim 7, wherein the glue is a synthetic resin-based
26 glue.

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1 10. (Original) The medical simulator of Claim 2, wherein at least one simulated patent skull
2 suture corresponds to at least one of a simulated patent coronal skull suture and a simulated patent
3 lambdoid skull suture, and wherein each opening corresponding to a simulated patent coronal skull
4 suture is beveled, and each opening corresponding to a simulated patent lambdoid skull suture is
5 beveled.

6 11. (Original) The medical simulator of Claim 2, wherein at least one opening corresponding to a
7 simulated patent skull suture corresponds to at least one of a simulated patent sagittal skull suture and a
8 simulated patent metopic skull suture, so that opposed walls of each opening corresponding to a simulated
9 patent sagittal skull suture exhibit an end-to-end configuration, and opposed walls of each opening
10 corresponding to a simulated patent metopic skull suture exhibit an end-to-end configuration.

11 12. (Original) The medical simulator of Claim 3, further comprising at least one simulated
12 fused skull suture.

13 13. (Original) The medical simulator of Claim 12, wherein each simulated fused skull suture
14 comprises said first material.

15 14. (Original) The medical simulator of Claim 12, wherein each simulated fused skull suture
16 comprises an opening formed in said first material, each opening corresponding to a simulated fused skull
17 structure being filled with a third material, an echogenicity of the third material being substantially
18 distinguishable from the echogenicity of the second material, so that each opening corresponding to a
19 simulated fused skull suture can be readily distinguished from an opening corresponding to a simulated
20 patent skull suture in an ultrasound image of said model.

21 15. (Original) The medical simulator of Claim 14, wherein the echogenicity of the third
22 material is substantially similar to the echogenicity of the first material, such that in an ultrasound
23 image of the model, portions of the model comprising the first material are not readily distinguishable
24 from portions of the model comprising the third material.

25 16. (Original) The medical simulator of Claim 14, wherein the third material comprises a
26 synthetic elastomer.

27 17. (Original) The medical simulator of Claim 16, wherein the synthetic elastomer comprises
28 dimethyl siloxane, hydroxy-terminated polymers, and silica.

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1 18. (Original) The medical simulator of Claim 12, further comprising an opaque layer
2 configured to cover each simulated patent skull suture and each simulated fused skull suture, so that a
3 trainee cannot readily visually determine whether a specific skull suture is patent or fused by visually
4 inspecting the model.

5 19. (Original) The medical simulator of Claim 1, further comprising an opaque layer
6 configured to cover a scalp portion of the model, so that a trainee cannot readily visually locate each
7 simulated patent skull suture by visually inspecting the model.

8 20. (Original) The medical simulator of Claim 1, wherein a doll's head is utilized for the
9 substantially life size model of a human head.

10 21. (Original) A medical simulator adapted to be used to train ultrasound operators to
11 perform craniosynotosis screenings using ultrasound, comprising a substantially life size model of a
12 human head, said model including at least one opening corresponding to a simulated patent skull
13 suture, wherein a difference in the echogenicity of each at least one opening relative to the
14 echogenicity of portions of the model not corresponding to a simulated patent skull suture enables
15 each simulated patent skull suture to be identified in an ultrasonic image.

16 22. (Original) The medical simulator of Claim 21, wherein each simulated patent skull suture
17 is filled with a hypoechoic material to enhance the difference in the echogenicity of the simulated
18 skull suture relative to that of portions of the model not corresponding to a simulated patent skull
19 suture.

20 23. (Original) The medical simulator of Claim 21, wherein said model is fabricated from a
21 first material, and each opening corresponding to a simulated patent skull suture is filled with a
22 second material, an echogenicity of the second material being substantially different than the
23 echogenicity of the first material, so that each opening corresponding to a simulated patent skull
24 suture can be readily distinguished from the first material in an ultrasound image of said model.

25 24. (Original) The medical simulator of Claim 23, wherein the echogenicity of the second
26 material is lower than the echogenicity of the first material, such that in an ultrasound image of the
27 model, portions of the model comprising the first material will appear brighter in contrast than
28 portions of the model comprising the second material.

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1 25. (Original) The medical simulator of Claim 23, further comprising at least one opening
2 corresponding to a fused skull suture, each opening corresponding to a simulated fused skull suture
3 being filled with a third material, an echogenicity of the third material being substantially different
4 than the echogenicity of the second material, so that each opening corresponding to a simulated fused
5 skull suture can be readily distinguished from an opening corresponding to a simulated patent skull
6 suture in an ultrasound image of said model.

7 26. (Original) The medical simulator of Claim 21, wherein:

8 (a) each opening corresponding to a simulated patent skull suture intended to
9 represent a patent coronal skull suture is beveled;

10 (b) each opening corresponding to a simulated patent skull suture intended to
11 represent a patent lambdoid skull suture is beveled;

12 (c) each opening corresponding to a simulated patent skull suture intended to
13 represent a patent sagittal skull suture is formed such that opposed walls of the opening exhibit an
14 end-to-end configuration; and

15 (d) each opening corresponding to a simulated patent skull suture intended to
16 represent a patent metopic skull suture is formed such that opposed walls of the opening exhibit an
17 end-to-end configuration.

18 27. (Original) An ultrasound trainer configured to train ultrasound operators to perform
19 craniosynotosis screenings using ultrasound; comprising a substantially life size model of a human
20 head, said model including at least one simulated patent skull suture and at least one simulated fused
21 skull suture, an echogenicity of each simulated patent skull suture enabling the simulated patent skull
22 suture to be readily distinguishable from each simulated fused skull suture in an ultrasound image of
23 said model.

24 28. (Original) A method of making an ultrasound trainer configured to train ultrasound
25 operators to perform craniosynotosis screenings using ultrasound, comprising the steps of:

26 (a) providing a life size model of a human head; and

27 (b) forming at least one simulated patent skull suture in the model that is readily
28 distinguishable in an ultrasound image of the model.

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1 29. (Currently Amended) A method of making an ultrasound trainer configured to train
2 ultrasound operators to perform craniosynotosis screenings using ultrasound, comprising the steps of:

3 (a) providing a life size model of a human head;

4 (b) determining an anatomically correct location of each skull suture on the model;

5 and

6 (c) based on the locations thus determined, forming a plurality of openings that
7 correspond to simulated patent skull sutures in the model, in anatomically correct locations, such
8 openings changing an echogenicity of the model proximate the locations thus determined, enabling
9 the simulated patent skull sutures to be identified in an ultrasound image of the model.

10 30. (Original) The method of Claim 29, wherein the step of providing a life size model of a
11 human head comprises the step of providing a doll's head.

12 31. (Original) The method of Claim 29, wherein the step of forming the plurality of openings
13 in the model comprises the step of cutting an opening in the model at the anatomically correct
14 locations for each simulated patent skull suture.

15 32. (Original) The method of Claim 29, wherein the step of forming the plurality of openings
16 in the model at the anatomically correct locations comprises the step of determining if the simulated
17 patent skull suture corresponding to the opening to be formed is one of a simulated patent coronal
18 skull suture and a simulated patent lambdoid skull suture, and if so, beveling the opening.

19 33. (Original) The method of Claim 29, wherein the step of forming the plurality of openings
20 in the model at the anatomically correct locations comprises the step of determining if the simulated
21 patent skull suture corresponding to the opening to be formed is one of simulated patent sagittal skull
22 suture and a simulated patent metopic skull suture, and if so, forming the opening such that opposed
23 walls of the opening exhibit an end-to-end configuration.

24 34. (Currently Amended) The method of Claim 29, further comprising the step of filling
25 each opening formed in the model at the anatomically correct locations with a hypoechoic material,
26 an echogenicity of the hypoechoic material further enabling each opening corresponding to a
27 simulated patent skull suture to be readily distinguishable in an ultrasound image of the model.

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1 35. (Currently Amended) The method of Claim 29, wherein the step of providing a life size
2 model of a human head comprises the step of providing a model in which a scalp of the model is
3 formed out of a first material, and further comprising the step of filling each opening formed in the
4 model at the anatomically correct locations with a second material, an echogenicity of the second
5 material being different than an echogenicity of the first material, such that each opening
6 corresponding to a simulated patent skull suture can be more readily identified in an ultrasound image
7 of the model.

8 36. (Original) The method of Claim 35, wherein the second material is hypoechoic.

9 37. (Original) The method of Claim 35, wherein the echogenicity of the second material is
10 lower than the echogenicity of the first material, such that in an ultrasound image of the model,
11 portions of the model corresponding to the first material appear brighter in contrast than portions of
12 the model corresponding to the second material.

13 38. (Original) The method of Claim 35, further comprising the step of covering the scalp of
14 the model with a layer of the second material.

15 39. (Original) The method of Claim 35, wherein the second material comprises a
16 composition of starch and glue.

17 40. (Original) The method of Claim 35, further comprising the step of forming at least one
18 simulated fused skull suture in the model.

19 41. (Original) The method of Claim 40, wherein the step of forming at least one simulated
20 fused skull suture in the model comprises the step of marking the model to indicate the correct
21 anatomical location of the simulated fused skull suture, without forming an opening in the model at
22 that location.

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1 42. (Original) The method of Claim 40, wherein the step of forming at least one simulated
2 fused skull suture in the model comprises the steps of:

3 (a) forming an opening in the model at an anatomically correct location for each
4 simulated fused skull suture; and

5 (b) filling each opening formed for a simulated fused skull suture with a third
6 material, an echogenicity of the third material being substantially different that the echogenicity of
7 the second material, such that each opening corresponding to a simulated fused skull suture can be
8 readily distinguished from opening corresponding to a simulated patent skull suture in an ultrasound
9 image of said model.

10 43. (Original) The method of Claim 42, wherein the echogenicity of the third material is
11 substantially similar to the echogenicity of the first material, such that in an ultrasound image of the
12 model, portions of the model comprising the first material are not readily distinguishable from
13 portions of the model comprising the third material.

14 44. (Original) The method of Claim 29, further comprising the step of covering a scalp of the
15 model with an opaque cover, such that a trainee cannot readily visually determine whether a specific
16 skull suture is patent or fused by visually inspecting the model.

17 45. (Currently Amended) A method of using an ultrasound trainer to train ultrasound
18 operators to perform craniosynotosis screenings using ultrasound, comprising the steps of:

19 (a) providing a life size model of a human head, the model including a plurality of
20 simulated skull sutures disposed at anatomically correct locations, the plurality of simulated skull
21 sutures including at least one patent suture that can be identified based on a difference in
22 echogenicity between the at least one patent suture and other portions of the model;

23 (b) using an ultrasound imaging tool to produce an image of each simulated skull
24 suture in the model; and

25 (c) evaluating the image of each simulated skull suture to determine if the
26 simulated skull suture is patent or fused.

27 46. (Original) The method of Claim 45, wherein the plurality of simulated skull sutures
28 includes a simulated sagittal skull suture, a simulated metopic skull suture, a simulated coronal skull
29 suture, and a simulated lambdoid skull suture.

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1 47. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool
2 to collect an image from each simulated skull suture comprises the step of producing an image of the
3 simulated metopic skull.

4 48. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool
5 to collect an image from each simulated skull suture comprises the step of producing an image of the
6 simulated sagittal skull suture at the anterior, middle, and posterior locations.

7 49. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool
8 to produce an image of each simulated skull suture comprises the step of producing an image of the
9 simulated coronal skull suture at the right medial, right lateral, left medial, and left lateral locations.

10 50. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool
11 to produce an image of each simulated skull suture comprises the step of producing an image of the
12 simulated lambdoid skull suture at the right medial, right lateral, left medial, and left lateral locations.

13 51. (Original) The method of Claim 46, wherein the step of using an ultrasound imaging tool
14 to produce an image of each simulated skull suture comprises the steps of:

15 (a) producing an image of the simulated sagittal skull suture at the anterior,
16 middle, and posterior locations;

17 (b) producing an image of the simulated metopic skull suture;

18 (c) producing an image of the simulated coronal skull suture at the right medial,
19 right lateral, left medial, and left lateral locations; and

20 (d) producing an image of the simulated lambdoid skull suture at the right medial,
21 right lateral, left medial, and left lateral locations.